CGPDFContext Reference

Graphics & Animation: 2D Drawing

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CGPDFContext Reference

Derived From:	`CGContextRef`
Framework:	ApplicationServices/ApplicationServices.h
Companion guide	Quartz 2D Programming Guide
Declared in	CGPDFContext.h

Overview

The CGPDFContext header file defines functions that create and get information about a Quartz PDF context. A CGPDFContext object is a type of `CGContextRef` that is used for drawing PDF content. The functions in this reference operate only on Quartz PDF graphics contexts created using the functions CGPDFContextCreate (page 8) or CGPDFContextCreateWithURL (page 9).

When you draw to the PDF context using CGContext functions the drawing operations are recorded in PDF format. The PDF commands that represent the drawing are written to the destination specified when you create the PDF graphics context.

Functions by Task

Creating a Context

`CGPDFContextCreate` (page 8)
Creates a PDF graphics context.

`CGPDFContextCreateWithURL` (page 9)
Creates a URL-based PDF graphics context.

Beginning and Ending Pages

`CGPDFContextBeginPage` (page 7)
Begins a new page in a PDF graphics context.

`CGPDFContextEndPage` (page 9)
Ends the current page in the PDF graphics context.

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Working with Destinations

`CGPDFContextAddDestinationAtPoint` (page 6)
Sets a destination to jump to when a point in the current page of a PDF graphics context is clicked.

`CGPDFContextSetDestinationForRect` (page 10)
Sets a destination to jump to when a rectangle in the current PDF page is clicked.

`CGPDFContextSetURLForRect` (page 10)
Sets the URL associated with a rectangle in a PDF graphics context.

Working with Metadata

`CGPDFContextAddDocumentMetadata` (page 7)
Associates custom metadata with the PDF document.

Closing a PDF Context

`CGPDFContextClose` (page 7)
Closes a PDF document.

Functions

CGPDFContextAddDestinationAtPoint

Sets a destination to jump to when a point in the current page of a PDF graphics context is clicked.

```
void CGPDFContextAddDestinationAtPoint (
    CGContextRef context,
    CFStringRef name,
    CGPoint point
);
```

Parameters

context
A PDF graphics context.

name
A destination name.

point
A location in the current page of the PDF graphics context.

Availability
Available in iOS 2.0 and later.

Declared In
`CGPDFContext.h`

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CGPDFContextAddDocumentMetadata

Associates custom metadata with the PDF document.

```
void CGPDFContextAddDocumentMetadata(
    CGContextRef context,
    CFDataRef metadata
);
```

Parameters

context

A PDF graphics context.

metadata

A stream of XML data that is formatted according to the Extensible Metadata Platform, as described in section 10.2.2., "Metadata Streams", of the PDF 1.7 specification.

Availability

Available in iOS 4.0 and later.

Declared In

CGPDFContext.h

CGPDFContextBeginPage

Begins a new page in a PDF graphics context.

```
void CGPDFContextBeginPage (
    CGContextRef context,
    CFDictionaryRef pageInfo
);
```

Parameters

context

A PDF graphics context.

pageInfo

A dictionary that contains key-value pairs that define the page properties.

Discussion

You must call the function CGPDFContextEndPage (page 9) to signal the end of the page.

Availability

Available in iOS 2.0 and later.

Declared In

CGPDFContext.h

CGPDFContextClose

Closes a PDF document.

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```
void CGPDFContextClose(
    CGContextRef context
);
```

Parameters

context

A PDF graphics context.

Discussion

After closing the context, all pending data is written to the context destination, and the PDF file is completed. No additional data can be written to the destination context after the PDF document is closed.

Availability

Available in iOS 2.0 and later.

Declared In

`CGPDFContext.h`

CGPDFContextCreate

Creates a PDF graphics context.

```
CGContextRef CGPDFContextCreate (
   CGDataConsumerRef consumer,
   const CGRect *mediaBox,
   CFDictionaryRef auxiliaryInfo
);
```

Parameters

consumer

The data consumer to receive the PDF output data.

mediaBox

A pointer to a rectangle that defines the size and location of the PDF page, or `NULL`. The origin of the rectangle should typically be `(0,0)`. Quartz uses this rectangle as the default bounds of the page's media box. If you pass `NULL`, Quartz uses a default page size of 8.5 by 11 inches (612 by 792 points).

auxiliaryInfo

A dictionary that specifies any additional information to be used by the PDF context when generating the PDF file, or `NULL`. The dictionary is retained by the new context, so on return you may safely release it. See "Auxiliary Dictionary Keys" (page 11) for keys you can include in the dictionary.

Return Value

A new PDF context, or `NULL` if the context cannot be created. You are responsible for releasing this object using `CGContextRelease`.

Discussion

This function creates a PDF drawing environment to your specifications. When you draw into the new context, Quartz renders your drawing as a sequence of PDF drawing commands that are passed to the data consumer object.

Availability

Declared In

`CGPDFContext.h`

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CGPDFContextCreateWithURL

Creates a URL-based PDF graphics context.

```
CGContextRef CGPDFContextCreateWithURL (
   CFURLRef url,
   const CGRect *mediaBox,
   CFDictionaryRef auxiliaryInfo
);
```

Parameters

url

A Core Foundation URL that specifies where you want to place the resulting PDF file.

mediaBox

A rectangle that specifies the bounds of the PDF. The origin of the rectangle should typically be `(0,0)`. The `CGPDFContextCreateWithURL` function uses this rectangle as the default page media bounding box. If you pass `NULL`, `CGPDFContextCreateWithURL` uses a default page size of 8.5 by 11 inches (612 by 792 points).

auxiliaryInfo

A dictionary that specifies any additional information to be used by the PDF context when generating the PDF file, or `NULL`. The dictionary is retained by the new context, so on return you may safely release it.

Return Value

A new PDF context, or `NULL` if a context could not be created. You are responsible for releasing this object using `CGContextRelease`.

Discussion

When you call this function, Quartz creates a PDF drawing environment—that is, a graphics context—to your specifications. When you draw into the resulting context, Quartz renders your drawing as a series of PDF drawing commands stored in the specified location.

Availability

Declared In

`CGPDFContext.h`

CGPDFContextEndPage

Ends the current page in the PDF graphics context.

```
void CGPDFContextEndPage (
    CGContextRef context
);
```

Parameters

context

A PDF graphics context.

Discussion

You can call `CGPDFContextEndPage` only after you call the function `CGPDFContextBeginPage` (page 7).

Availability

Available in iOS 2.0 and later.

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Declared In
CGPDFContext.h

CGPDFContextSetDestinationForRect

Sets a destination to jump to when a rectangle in the current PDF page is clicked.

```
void CGPDFContextSetDestinationForRect (
    CGContextRef context,
    CFStringRef name,
    CGRect rect
);
```

Parameters

context

A PDF graphics context.

name

A destination name.

rect

A rectangle that specifies an area of the current page of a PDF graphics context. The rectangle is specified in default user space (not device space).

Availability
Available in iOS 2.0 and later.

Declared In
CGPDFContext.h

CGPDFContextSetURLForRect

Sets the URL associated with a rectangle in a PDF graphics context.

```
void CGPDFContextSetURLForRect (
   CGContextRef context,
   CFURLRef url,
   CGRect rect
);
```

Parameters

context

A PDF graphics context.

url

A CFURL object that specifies the destination of the contents associated with the rectangle.

rect

A rectangle specified in default user space (not device space).

Availability

Declared In
CGPDFContext.h

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Constants

Auxiliary Dictionary Keys

Keys that used to set up a PDF context.

```
CFStringRef kCGPDFContextAuthor;
CFStringRef kCGPDFContextCreator;
CFStringRef kCGPDFContextTitle;
CFStringRef kCGPDFContextOwnerPassword;
CFStringRef kCGPDFContextUserPassword;
CFStringRef kCGPDFContextAllowsPrinting;
CFStringRef kCGPDFContextAllowsCopying;
CFStringRef kCGPDFContextSubject;
CFStringRef kCGPDFContextKeywords;
CFStringRef kCGPDFContextEncryptionKeyLength;
```

Constants

`kCGPDFContextAuthor`

The corresponding value is a string that represents the name of the person who created the document. This key is optional.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextCreator`

The corresponding value is a string that represents the name of the application used to produce the document. This key is optional.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextTitle`

The corresponding value is a string that represents the title of the document. This key is optional.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextOwnerPassword`

The owner password of the PDF document. If this key is specified, the document is encrypted using the value as the owner password; otherwise, the document will not be encrypted. The value of this key must be a CFString object that can be represented in ASCII encoding. Only the first 32 bytes are used for the password. There is no default value for this key. If the value of this key cannot be represented in ASCII, the document is not created and the creation function returns `NULL`.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextUserPassword`

The user password of the PDF document. If the document is encrypted, then the value of this key will be the user password for the document. If not specified, the user password is the empty string. The value of this key must be a CFString object that can be represented in ASCII encoding; only the first 32 bytes will be used for the password. If the value of this key cannot be represented in ASCII, the document is not created and the creation function returns `NULL`.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

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`kCGPDFContextAllowsPrinting`
Whether the document allows printing when unlocked with the user password. The value of this key must be a CFBoolean value. The default value of this key is `kCFBooleanTrue`.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextAllowsCopying`
Whether the document allows copying when unlocked with the user password. The value of this key must be a CFBoolean object. The default value of this key is `kCFBooleanTrue`.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextSubject`
The subject of a document. Optional; if present, the value of this key must be a `CFString` object.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextKeywords`
The keywords for this document. This key is optional. If the value of this key is a `CFString` object, the `/Keywords` entry will be the specified string. If the value of this key is a `CFArray` object, then it must be an array of `CFString` objects. The `/Keywords` entry will, in this case, be the concatenation of the specified strings separated by commas (" , "). In addition, an entry with the key `"/AAPL:Keywords"` is stored in the document information dictionary; its value is an array consisting of each of the specified strings. The value of this key must be in one of the above forms; otherwise, this key is ignored.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextEncryptionKeyLength`
The encryption key length in bits; see Table 3.18 "Entries common to all encryption dictionaries", PDF Reference: Adobe PDF version 1.5 (4th ed.) for more information. Optional; if present, the value of this key must be a `CFNumber` object with value which is a multiple of 8 between 40 and 128, inclusive. If this key is absent or invalid, the encryption key length defaults to 40 bits.

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

Discussion
For more information about using these keys in a PDF context, see `CGPDFContextCreate` (page 8) and `CGPDFContextCreateWithURL` (page 9).

Availability
Available in Mac OS X v10.4 and later.

Declared In
`CGPDFContext.h`

Box Dictionary Keys

Keys that specify various PDF boxes.

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```
CFStringRef kCGPDFContextMediaBox
CFStringRef kCGPDFContextCropBox
CFStringRef kCGPDFContextBleedBox
CFStringRef kCGPDFContextTrimBox
CFStringRef kCGPDFContextArtBox
```

Constants

`kCGPDFContextMediaBox`

The media box for the document or for a given page. This key is optional. If present, the value of this key must be a CFData object that contains a `CGRect` (stored by value, not by reference).

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextCropBox`

The crop box for the document or for a given page. This key is optional. If present, the value of this key must be a CFData object that contains a `CGRect` (stored by value, not by reference).

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextBleedBox`

The bleed box for the document or for a given page. This key is optional. If present, the value of this key must be a CFData object that contains a `CGRect` (stored by value, not by reference).

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextTrimBox`

The trim box for the document or for a given page. This key is optional. If present, the value of this key must be a CFData object that contains a `CGRect` (stored by value, not by reference).

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

`kCGPDFContextArtBox`

The art box for the document or for a given page. This key is optional. If present, the value of this key must be a CFData object that contains a `CGRect` (stored by value, not by reference).

Available in iOS 2.0 and later.

Declared in `CGPDFContext.h`.

Discussion

For more information about using these keys in a PDF context, see `CGPDFContextCreate` (page 8) and `CGPDFContextCreateWithURL` (page 9).

Availability

Available in Mac OS X v10.4 and later.

Declared In

`CGPDFContext.h`

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Document Revision History

This table describes the changes to *CGPDFContext Reference*.

Date	Notes
2010-04-30	Added the CGPDFContextAddDocumentMetadata function.
2007-10-31	Updated for Mac OS X v10.5.
	Added one the function `CGPDFContextClose` (page 7) and three constants—`kCGPDFContextSubject` (page 12), `kCGPDFContextKeywords` (page 12), and `kCGPDFContextEncryptionKeyLength` (page 12).
	Clarified the space used for `CGPDFContextSetURLForRect` (page 10).
	Grouped functions according to their use.
2006-05-23	Revised the introduction.
2005-04-29	Updated for Mac OS X v10.4.
	Added the functions `CGPDFContextBeginPage` (page 7), `CGPDFContextEndPage` (page 9), `CGPDFContextAddDestinationAtPoint` (page 6), `CGPDFContextAddDestinationAtPoint` (page 6), and `CGPDFContextSetDestinationForRect` (page 10).
	Added the dictionary keys "`Auxiliary Dictionary Keys`" (page 11), "`Box Dictionary Keys`" (page 12), and "`Output Intent Dictionary Keys`".
2004-08-31	Added introductory material.
2004-02-26	First version of this document. An earlier version of this information appeared in *Quartz 2D Reference*.

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Document Revision History

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